

AMENDMENTS TO THE SPECIFICATION

IN THE WRITTEN DESCRIPTION:

Please substitute the paragraph starting at page 6, line 1 with the following amended paragraph.

A 2-3 mm<sup>2</sup> sized section was obtained from one of the sterilized ginseng, camphor ginseng, and wild ginseng and was seeded on a MS media containing 1.0-10.0 mg/L of 2,4-D (2,4-dichlorophenoxy acetic acid), pichloram ~~pechleram~~, NAA(~~naphthaleneacetic~~ naphthaleneacetic acid) to induce callus. The most desirable effect could be obtained when the concentration of added chemicals was 2.0 mg/L.

Please substitute the paragraph starting at page 6, line 16 with the following amended paragraph.

The above adventitious root was propagated in MS media (ratio of inorganic matter to solvent is 1/2 to 3/4 ~~inorganic matter concentration 1/2-3/4~~, pH 5.7-6.0, sugar concentration 3-5%) at the temperature of 18-24°C. The randomly sectioned newly formed lateral root including cultured ~~explants~~ explants in a size of 1-2 cm was seeded in a buoyant balloon type bioreactor and was cultured in a MS media containing 3% ~~of~~ sugar under the conditions of 0.05-0.3vvm of air injection at 22°C and pH 6.0 with a growth regulator in an amount of ~~the~~ 1.0-10.0 mg/L ~~BSSA~~ BSAA (benzo[b]selenienyl acetic acid) or IBA or NAA.

Please substitute the paragraph starting at page 8, line 12 with the following amended paragraph.

As indicated in table 1, media that had not been treated by the growth regulator showed less than 2 times ~~of~~ the biomass increment, whereas the media treated by IBA, or NAA showed more than 5 times of the biomass increment ~~with the at~~ a concentration of 2-3 mg/L. Especially, the media treated by BSAA ~~BSSA~~, a newly synthesized auxin, showed a remarkable increment of the biomass under the concentration of 2-3 mg/L, suggesting the most effective concentration of the growth regulator is ~~of~~ 2-3mg/L.

Please substitute the paragraph starting at page 9, line 7 with the following amended paragraph.

The comparison of the cultivated ginseng and the wild ginseng showed not so much difference in the biomass increment and a similar growth pattern in the bioreactor. Therefore, it is desirable to add growth regulators including NAA, IBA and BSAA ~~BSSA~~ to mass propagate the adventitious root of the ginseng in the bioreactor.

Please substitute the paragraph starting at page 9, line 13 with the following amended paragraph.

To examine the effects of preparation methods on the root propagation when culturing the adventitious root of the cultivated ginseng and the wild ginseng in the bioreactor, the following methods were used. The first one is to culture the non-sectioned adventitious root in a MS media containing 2ml/L of BSAA ~~BSSA~~. The second one is to culture the lateral root only excluding the explants ~~explantes~~ and the last one is to culture the sectioned adventitious root of 1-2 cm length including the explants ~~explantes~~ and lateral roots. Table 2 shows the results of each method after 4 weeks cultivation.

**Please substitute the paragraph starting at page 11, line 7 with the following amended paragraph.**

The temperature was adjusted to 22°C, and the amount of air injected ~~injection~~ into the bioreactor was 0.05-0.3vvm. 3% sugar added MS media was used and 2.0 mg/L of ~~BSSA~~ BSAA was added as a growth regulator and the pH was adjusted to 6.0.